

approaches would lessen the impact LPTV and TV translator stations.⁸⁶ They state that while there is not enough spectrum to preserve all existing low power stations, their approach would displace fewer LPTV and TV translator stations than the proposed core approach. They estimate that approximately 20% of all low power stations would be displaced under their Baseline Table and that an additional 16% would be displaced if channels 60-69 were recovered and made available for other uses during the transition. The Joint Broadcasters submit that they worked with the low power community in constructing their Modified Table, and include with their comments a list of the LPTV and TV translator stations that they believe would be displaced.⁸⁷

46. The Joint Broadcasters also contend that the selection of permanent channels for DTV is premature.⁸⁸ They argue that excluding channels 2-6 from the ultimate DTV spectrum is particularly problematic. They argue that in the absence of evidence that the lower VHF band is unsuitable for DTV operation, it is unwise and could be extremely disruptive to inform stations operating on the lower VHF channels -- long among the most desirable for their longer propagation range and lower power requirements -- that they will have to abandon their facilities at the end of the transition.⁸⁹ They also argue that their modified full band approach would provide many stations with the opportunity to increase their service areas beyond their NTSC service area.⁹⁰ They argue that the benefits of the core spectrum approach are speculative and uncertain and that their approach would result in the eventual return of essentially the same amount of spectrum. They further argue that the assumed economic benefits of the core approach and spectrum recovery proposals have been greatly overrated and contend that the proposed early auction of segments of channels 60-69 would earn far less than a later auction of contiguous spectrum.⁹¹

⁸⁶ Id., pp. 27-28.

⁸⁷ Id., pp. 33-34.

⁸⁸ Id., p. 35.

⁸⁹ Id., pp. 36-37.

⁹⁰ Id., p. 40.

⁹¹ Broadcasters contend that the amount of useable spectrum that would be available for relocation under our proposed approach is about the same small amount as that which would be available under their Modified Table. They submit that the buffer zones needed to protect the 97 incumbent NTSC stations and the 51 DTV stations overlap substantially with the zones needed to protect the 139 DTV stations their Modified Table would create. (pp. 40-41) Broadcasters submit that the potential value of the spectrum that would be available for reallocation is vastly reduced by its location (rural) and fragmentation (approximately 12 MHz blocks). Broadcasters also include with their comments a report by Dr. Jerry Hausman of MIT that indicates that the early recovery of smaller amounts of non-contiguous spectrum is likely to be a less economically efficient solution than later recovery of larger blocks of contiguous spectrum. Using data collected from the PCS spectrum auctions, Dr. Hausman concludes that the government could earn 2.3-10.6 times more revenue (on a net present value basis) by waiting 15 years to auction channels 60-69 in a cleared spectrum block. He also calculates the consumer

47. Other broadcasting parties expressed similar views. AAPTS, for example, states that the full broadcast band should be used for DTV during the transition period.⁹² It states that such an approach will afford more opportunities for coverage maximization and will reduce the adverse impact of DTV allotments on noncommercial translators. Chris-Craft/United Group (Chris-Craft) recommends that we maintain maximum flexibility for modifying the initial allotments.⁹³ To this end, it argues that we should not adopt the core spectrum proposal. Similarly, Freedom Communications, Inc. (Freedom) believes that the full amount of spectrum currently allocated for TV should continue to be available in the future, particularly in the transition period.⁹⁴ KARK-TV, Inc., opposes the core spectrum proposal.⁹⁵ It argues that because the DTV has not been thoroughly tested, broadcasters will need flexibility to work out allotment problems during the transition and for a considerable period thereafter. It also contends that there has been no immediate demand for more frequencies by other services demonstrated.

48. Harris Corporation (Harris), a manufacturer of television transmitters, states that it is important to maintain flexibility during the DTV implementation stage by utilizing the full television spectrum for DTV allotment purposes.⁹⁶ Similarly, AFCCE recommends that we retain the entire UHF TV spectrum until DTV interference issues are resolved.⁹⁷ Thomas C. Smith believes that our DTV spectrum plan should consider the future growth of broadcast television, the need for additional full service stations and the future of secondary TV translators and low power TV stations.⁹⁸ He is concerned that the overriding consideration in this proceeding is to raise revenue for the U.S. Treasury, rather than the technical and growth needs of the existing industry.

49. National Broadcasting Company (NBC) submits that a critical element in maintaining the flexibility to make changes to the DTV Table is not to arrive at a premature

value lost to increased interference that would result from the core channel approach. Using a Boston station as the basis for his analysis, Dr. Hausman concludes that the loss in consumer value alone is between 3.5 and 4.7 times higher than the revenue that the Commission would raise in an early auction of the spectrum.

⁹² AAPTS comments, pp. 12-15.

⁹³ Chris-Craft comments, pp. 6-7.

⁹⁴ Freedom comments, p. 3.

⁹⁵ KARK comments, p. 1-3.

⁹⁶ Harris comments, p. 3.

⁹⁷ AFCCE comments, p. 16.

⁹⁸ Smith comments, p. 2.

conclusion as to which parts of the spectrum may be best for DTV operation.⁹⁹ It states that, for example, it believes that the low band VHF channels are entirely suitable to carry DTV signals. It states that the advantages of longer range propagation with significantly lower power compensate for the characteristics of the low-band VHF frequencies that can impair DTV service.

50. Several other parties also argue that the low VHF channels should continue to be available for future DTV operations. DLR, for example, urges that we retain the low VHF channels for TV use.¹⁰⁰ It disagrees with our initial assessment that the low VHF channels are less suitable for DTV service because of high levels of atmospheric and man-made noise. It submits that the DTV field tests performed on channel 6 at Charlotte, NC, while limited in sample size and interference experienced, indicate that DTV service was substantially better than NTSC service in the presence of impulse noise. Citadel Communications Co., Ltd. (Citadel) proposes that VHF channels 2 to 6 be retained and that stations currently licensed on those channels be permitted to return to those channel locations for final DTV operations. It believes that the various technical penalties of operating there (leaky power lines, ignition noise, and educational FM interference) deserve more study before the band is discarded for DTV.¹⁰¹

51. Silver King Communications, Inc. (Silver King) states that our plan for early recovery of channels 60-69 would create additional interference, impede the maximization and modification of NTSC and DTV facilities, and give TV receiver manufacturers an incentive to omit channels 60-69 from new TV sets.¹⁰² It states that this would unfairly and uniquely limit the ability of Silver King, with eight major market stations on channels between 60 and 69, to compete in the NTSC and DTV marketplaces. Silver King states that new service providers should be required to compensate broadcasters for the cost of relocating their DTV channels to the core spectrum area. Telemundo Group, Inc. (Telemundo) and UCI argue that we should reject the core spectrum plan and retain the current broadcast spectrum. Telemundo is concerned that as spectrum outside the core is recovered for other uses, the non-core channels will become subject to increasing levels of interference.¹⁰³ It also argues that TV set manufacturers may stop building receivers that tune channels outside of the core spectrum. UCI argues that the proposals for mitigating the impact on low power stations will have little impact if an artificial contraction of the broadcast spectrum, as would occur under our core

⁹⁹ NBC comments, p. 2.

¹⁰⁰ DLR comments, p. 6.

¹⁰¹ Citadel comments, pp. 2 and 5.

¹⁰² Silver King comments, pp. 3-6 and summary, p. 1.

¹⁰³ Telemundo comments, p. 20.

spectrum plan, leaves no digital or replacement channels available for LPTV licensees.¹⁰⁴ Pappas Telecasting Companies (Pappas) submits that the benefits that might accrue from auctioning spectrum from channels 60-69 before the completion of the transition to DTV are at best speculative and states that this spectrum could be worth significantly more if it were to be auctioned as a cleared block.

52. WB Television Network (WB) states that the core plan would reduce the number of channels that are available for new TV stations and thereby impact new networks.¹⁰⁵ Rather than adopt the core spectrum option, WB urges that we delay making any decision about the precise amount of spectrum to be recovered until after the transition to DTV is complete and after the pending applications and rule making proceedings for new NTSC stations have been acted on.

53. Parties with interests in low power operations, both LPTV and translators, are generally concerned that the core approach and channel 60-69 spectrum recovery efforts would result in additional impact to their operations. Acadiana Cable Advertising, Inc. (Acadiana), for example, opposes the core spectrum approach and the plan for early recovery of channels 60-69.¹⁰⁶ It argues that shrinking the available spectrum would effectively eliminate LPTV and TV translator stations and would result in loss of program diversity. Apogee Broadcasting Corp. (Apogee) submits that our proposed core spectrum plan makes finding a replacement channel more difficult.¹⁰⁷ Apogee acknowledges that eventual auctioning of unused spectrum would offer taxpayers a financial benefit, but urges that any such action be deferred until the end of the transition.

54. The Community Broadcasters Association (CBA) argues that we should postpone any spectrum reallocation until more is known about the transition process. CBA states that channels 60-69 are more heavily populated by LPTV and translators than full power stations.¹⁰⁸ The National Translator Association (NTA) submits that all the TV spectrum should be retained until all stations are converted to digital.¹⁰⁹ It argues that it would be unfair to people in rural areas to require translator operations to move again as they have done from above channel 69. F. A. Bibeau & Associates (Bibeau) states that in the Southwest area of the U.S., especially the Mountain States, there are few full power TV stations and a greater

¹⁰⁴ UCI comments, p. 8.

¹⁰⁵ WB comments, pp. 5-6.

¹⁰⁶ Acadiana comments, pp. 2 and 4.

¹⁰⁷ Apogee comments, pp. 1 and 3.

¹⁰⁸ CBA comments, pp. 10-11.

¹⁰⁹ NTA comments, p. 4.

portion of the population receive their only television service by translators.¹¹⁰ It submits that channels 60-69 are needed for TV translators to provide service to these unserved areas. Blue Mountain Translator District (Blue Mountain) states that the TV spectrum in central and eastern Oregon is being used in its entirety and that removing channels 60-69 would impact reliable broadcast services to communities in northeastern Oregon.¹¹¹ WatchTV states that if we move to reclaim channels 60-69, the new service providers should be required to compensate LPTV licensees for their existing investment or for moves to new channels to accommodate new entrants.

55. The Department of Special Districts, San Bernardino County, CA (DSD) submits that we should not re-allocate channels 60-69 until after the transition to DTV is completed in order to protect the operation of LPTV and TV translator services.¹¹² It argues that no spectrum reallocation, the purpose of which would be to garner revenue for the U.S. Treasury, should result in any direct or indirect cost to Special Districts' taxpayer-created and financed services without 100% restitution, paid by either the U.S. Government or by the successful bidder at auction or other new user. The DSD also submits that, to the extent possible the DTV Table should be modified, to encourage all stations to revert to their existing channel after the transition.

56. KUED-TV and KULC-TV (KUED-TV) argue that further consideration should be given to preservation of the existing TV translators and LPTV stations in allotting DTV channels.¹¹³ KUED-TV submits that the loss of one translator could cause loss of service to many communities. It argues that because of this "domino" effect, the number of translators affected by DTV could be up to 3 or 4 times higher than estimated. The International Broadcasting Network (IBN) argues that our DTV proposals must accommodate all existing television stations, including the nation's approximately 2,000 low power stations and more than 1,500 full power television stations, on a fair and equitable basis.¹¹⁴

57. Tiger Eye Broadcasting Corporation (Tiger Eye) submits that community broadcast television is perhaps the only source where viewers can consistently watch locally-televised events.¹¹⁵ It requests that channels 60-69 be retained in order to preserve low power television service. Raoul Lowery Contereras argues that LPTV stations provide for

¹¹⁰ Bibeau comments, pp. 1-2.

¹¹¹ Blue Mountain comments, pp. 2-3.

¹¹² DSD comments, pp. 6-7, 10, and 12

¹¹³ KUED-TV comments, pp. 3-4 and 9.

¹¹⁴ IBN comments, p. 5.

¹¹⁵ Tiger Eye comments, pp. 1-2.

minority/ethnic participation in mass communications and provide coverage of minority/ethnic events that are ignored by full power broadcasters. He asks that we revise our proposed rules and policies for DTV to protect LPTV.¹¹⁶ WJYL-LP 26 (WJYL) urges that LPTV service be preserved at all costs. It states that many in the low power industry have invested their life savings and credit into the financing of their stations.¹¹⁷ WJYL recommends that we allocate a group of channels for LPTV service. Community Teleplay, Inc. (CTI) submits that frequencies between 52-59 should be set-aside band for displaced LPTV stations.¹¹⁸

58. The Benton Foundation (Benton) argues that we should adopt an allotment plan that includes LPTV stations and provides for their continued success in the DTV era.¹¹⁹ Independent Broadcasting Company (IBC) states that we should attempt to facilitate the transition of TV translators to DTV operations in a manner that will not impact full service DTV conversion.¹²⁰ It argues, however, that LPTV is a failed experiment and that we should not treat LPTV stations any different than TV translators.

59. Several parties with broadcast interests support the core approach, suggest modifications to the core concept or support approaches that would limit DTV allotments to the UHF band or portions of the UHF band. KSCI-TV and LABCTS, for example, support the concept of a core spectrum. They submit that excess spectrum should be returned for other purposes but that enough spectrum should be maintained for broadcasting to provide an interference free transition and continued operation of DTV.¹²¹ KSCI-TV and LABCTS recommend that DTV be implemented in a core spectrum of channels 22-66. They state that this would simplify receiver design and antenna problems. They submit that this would release the existing VHF TV spectrum and make channels 14-21 contiguous with the existing land mobile spectrum now ending at 470 MHz.

60. National Public Radio (NPR) supports our proposal to allot DTV channels in a manner that would permit the early recovery and auction of channels 60-69.¹²² It states that a portion of the auction proceeds should be used to support public broadcasting. It asks that if there are insuperable technical barriers to the early recovery of this spectrum, we continue to pursue and support other appropriate mechanisms to sustain the public broadcasting system.

¹¹⁶ Contereras comments, pp. 1-3.

¹¹⁷ Watch TV, p. 2.

¹¹⁸ CTI comments, p. 5.

¹¹⁹ Benton comments, pp. 6-7.

¹²⁰ IBC comments, p. 3.

¹²¹ KSCI-TV comments, pp. 2-3; LABCTS comments, at p. 2.

¹²² NPR comments, p. 1.

BET states that we should adopt our core spectrum proposal and other mechanisms to recover spectrum quickly and efficiently in order to be able to conduct auctions for the recovered spectrum in a manner that encourages new entrant participation.¹²³ It also states that the core spectrum approach will promote rapid efficient recovery of vacated spectrum and is far superior to the first-come/first-served approach we proposed earlier.

61. Lewis supports our earlier proposal to allot all DTV channels to the UHF band. It submits that this approach would provide strong encouragement for medium and small market stations to participate in the transition to DTV technology.¹²⁴ The LABCTS believe that DTV should be implemented in a core spectrum of contiguous UHF channels. They submit that this approach would simplify receiver design and antenna problems. VictoriaVision, Inc. (VVI) requests that we locate all DTV allotments in the UHF band.¹²⁵ It argues that locating all TV stations in the same band would eliminate the existing disparities between VHF and UHF stations and simplify receiver and antenna designs.

62. Fox recommends that low band VHF channels generally not be used for DTV allotments due to the crowded nature and propagation characteristics of this band.¹²⁶ Cannell Cleveland, L.P. (Cannell) argues that both our core spectrum plan and the alternative approach supported by the Joint Broadcasters appear to exacerbate the disparities between UHF and VHF stations.¹²⁷ To address these concerns, Cannell recommends that we establish a DTV core spectrum that is entirely within the UHF band. Holston also recommends that all DTV channels be located in the UHF band as a means to avoid impulse noise in the VHF bands and to avoid repacking stations at the end of the transition.¹²⁸ It submits that modern UHF transmitters can be operated throughout the band with only minor modifications and that this would minimize the cost of any re-packing that would be necessary. Kentuckiana believes that in order to place all broadcasters on a level playing field, DTV service should be located entirely in the UHF band.¹²⁹ It submits that locating all DTV stations in the UHF band would finally eliminate the disadvantages that UHF stations face with respect to VHF stations. It states that the result would be a stronger overall television system.

63. The public safety community and other land mobile parties strongly support

¹²³ BET comments, pp. 7 and 9.

¹²⁴ Lewis comments, pp. 4-5.

¹²⁵ VictoriaVision comments, pp. 1-2.

¹²⁶ Fox comments, p. 3.

¹²⁷ Cannell comments, pp. 2-3.

¹²⁸ Holston comments, p. 4.

¹²⁹ Kentuckiana comments, pp. 2-3.

proposals that would permit spectrum recovery. The Association of Public-Safety Communications Officials-International, Inc., (APCO) supports the plan to allot DTV channels in a manner that would allow for reallocation of channels 60-69 for other services.¹³⁰ APCO notes that one of the key findings of the *Final Report of the Public Safety Wireless Advisory Committee to the Federal Communications Commission and the National Telecommunications and Information Administration*, September 11, 1996, is that public safety needs an additional 25 MHz of spectrum within the next five years. It states that the spectrum now allocated for channels 60-69 would be extremely valuable for public safety and is immediately adjacent to the 800 MHz frequency bands already allocated for public safety operations. It further observes that the impact on existing TV service and DTV implementation would be *de minimis*. APCO asks that at least 24 MHz be made available to public safety within five years.

64. APCO also states that we should reduce and, if possible, avoid channel 60-69 DTV allotments altogether.¹³¹ It submits that to the extent that it is necessary to place any DTV allotments on channels 60-69, we should adopt strict guidelines by which stations must either initiate DTV service or relinquish the channel for reallocation. It states that we should also attempt to concentrate the DTV allotments on particular channels rather than scattering them across all ten channels. APCO indicates that such concentration would allow the reallocation of common frequencies to public safety across the country. APCO argues that while it understands the situation of low power TV stations, the radio spectrum is a finite resource subject to reallocation in the public interest. It states that low power TV stations were granted licenses on a secondary basis, and have always been on notice that their operations could be temporary. APCO opposes requiring new users of channels 60-69 to compensate low power licensees for their displacement, at least insofar as it would apply to new users that are state and local government agencies. It argues that public agencies have limited resources that will be needed to implement the new public safety systems on those frequencies.

65. APCO further states that there is a substantial need for new public safety spectrum in the lower VHF band above 174 MHz (adjacent to current 150-174 MHz land mobile bands) and in the lower UHF band at 470-512 MHz (channels 14-20, where land mobile sharing already exists in eleven major markets).¹³² APCO states that additional spectrum is needed in these bands to provide for enhanced interoperability, especially for wide area operations for state police and similar agencies. It therefore recommends that we modify our core spectrum proposal to allow for the eventual recovery of spectrum in the range of VHF channels 7-8 (174-186 MHz) and UHF channels 14-20 (470-512 MHz). It states that to offset the impact of making additional spectrum below 512 MHz available for public safety,

¹³⁰ APCO comments, pp. 2-3, 6-7, and 10-11.

¹³¹ APCO comments, p. 13.

¹³² APCO comments, pp. 3-4 and 16.

we could either use VHF channels 5-6 as part of the DTV core spectrum, or extend the DTV core spectrum one or two channels above channel 51.

66. In a joint letter submitted on February 26, 1997, APCO *et. al.*, states that we must not delay any further in addressing public safety needs.¹³³ These parties disagree with the broadcasting interests that reallocation of channels 60-69 should be delayed for several years. These parties further observe that the process of making new public safety spectrum available and constructing systems to operate on that spectrum will not be completed overnight. APCO *et. al.* therefore urge that we allocate spectrum in channels 60-69 now, so that implementation of new public safety systems can begin as soon as possible. To facilitate this process, they also urge that the DTV allotment plan eliminate or at least minimize, the number of DTV allotments on these channels.

67. The County of Los Angeles (LA County) states that it supports our DTV allotment proposals, including the plan for recovery of channels 60-69 for other uses.¹³⁴ It urges that a significant portion of reallocated spectrum be made available for public safety use and states that many governmental entities in Southern California have substantial need for more spectrum to modernize overburdened communications, to provide interoperability, and allow for the implementation of new communications technologies for public safety. LA County also states that it supports the suggestion made in APCO's comments that we modify the core spectrum plan to allow for eventual public safety use of VHF channel 7, and to facilitate additional land mobile sharing of UHF channels 14-20. It argues that elimination of channels 60-69 would have minimal impact on current television broadcasters. It also supports the proposal to continue the secondary status of low power television stations and argues that public safety agencies should not be required to compensate such secondary licensees for terminating operation or relocating to other spectrum.

68. Department of Communications, County of Bucks, Pennsylvania (DOCBC) submits that there is an urgent need in many parts of the country, including the Philadelphia area, for additional public safety radio channels.¹³⁵ It points out that the PSWAC, in its recently released Final Report found that public safety agencies need at least 2.5 MHz of additional spectrum immediately for interoperability, at least 25 MHz within 5 years, and an additional 70 MHz within the next 15 years. AC Transit submits that the San Francisco Bay area has a serious shortage of available frequencies to support the communications needs of its

¹³³ See letter of February 27, 1997, from APCO, the International Association of Chiefs of Police, International Association of Fire Chiefs, International Municipal Signal Association, International Union of Police Associations, AFL-CIO, League of California Cities, National Association of Telecommunications Officers and Advisors, National Conference of State Legislatures, National Coordinating Council on Emergency management, National League of Cities, City of New York, and County of Los Angeles.

¹³⁴ LA County comments, pp. 2 and 6-9.

¹³⁵ DOCBC comments, p. 1.

transit systems.

69. The Land Mobile Communications Council (LMCC) states that our proposal for recovery of a portion of the existing broadcast television spectrum for new uses is a win-win situation that accommodates both DTV operations and new mobile operations.¹³⁶ It submits that the spectrum in channels 60-69 is adjacent to existing mobile service allocations at 800 MHz and therefore would be of significant benefit for land mobile use. It states that this spectrum could, for example as noted in the Sixth Further Notice, be licensed through competitive bidding for flexible mobile operations; a portion of it could be used to meet public safety needs; and/or a portion could be designated temporarily or permanently for LPTV and TV translator stations. The LMCC also suggest some of the recovered spectrum could be used to meet the communications needs of electric and water utilities, petroleum producers, railroads, transportation facilities and many smaller businesses. LMCC suggests several modifications to our DTV allotment proposals. First, it recommends that we reexamine the draft Table to determine whether alternative solutions exist that would avoid the need to make any DTV allotments on channels 60-69. Second, it states that we should establish some mechanism to retire NTSC operation on channels 60-69 in a timely manner. It suggests that, given the relatively poor propagation of broadcast signals in this band, we should examine the extent to which the audience share for the approximately 100 NTSC stations on channels 60-69 is actually achieved over cable rather than over-the-air.

70. In a letter submitted March 14, 1997, the LMCC states that the Commission and the American public will not reap the full benefits of the DTV allotment plan unless prompt action is taken to make more efficient use of the spectrum represented by TV channels 60-69. It urges that we pursue a schedule that would lead to: 1) adoption of a Notice of Proposed Rule Making by May 1, 1997, for the reallocation of channels 60-69 for public safety, critical industries/businesses and CMRS uses, and licensing and service rules to implement the reallocation, 2) adoption of a Report and Order finalizing the reallocation by August 1, 1997, or sooner; and 3) adoption of a Report and Order finalizing service rules for land mobile use of channels 60-69 by December 31, 1997, or sooner.

71. UTC, the Telecommunications Association, urges that we initiate a proceeding to immediately allocate the channel 60-69 band to meet the needs of public safety and to address the needs of the private radio community.¹³⁷ In particular, UTC argues that a portion of the recovered spectrum could be used to 1) address congestion in the private land mobile bands below 512 MHz, 2) accommodate relocated users from the 800 MHz band, 3) meet anticipated growth in private land mobile operations, and 4) permit the introduction of new and innovative technologies. UTC also states that entities, such as utilities and pipelines, have a need to interoperate with public safety agencies. It believes that the channel 60-69 band

¹³⁶ LMCC comments, pp 1-2, 7-8, and 12.

¹³⁷ UTC comments, pp 1, 4, and 6.

would be ideal for this interoperability band.

72. Ericsson Inc. (Ericsson) supports the core spectrum concept but suggests that by repacking the UHF broadcast spectrum it may be possible to free up additional radio spectrum for other uses or more broadcast channels.¹³⁸ Ericsson believes that it is likely that a core spectrum area smaller than the 44 channels proposed in the Sixth Further Notice could provide all broadcasters with DTV facilities comparable to their existing NTSC facilities. It notes that the UHF TV channels are lightly packed with only about 18 stations per channel. Ericsson submits that if the post transition core spectrum were packed only as tightly as VHF stations are packed now, *i.e.*, 58 stations per channel, then only about 30 channels would be needed to accommodate DTV. It states that such a compact plan would ultimately free up more than 200 MHz of spectrum. Ericsson also recommends that we modify our core spectrum proposal to free spectrum at the lower UHF TV band and to leave channels 7 and 8 out of the core spectrum. While it acknowledges that it would be extremely difficult and disruptive to relocate existing channel TV operations, it states that freeing these channels after this transition would be less difficult. It notes that our draft Table proposes only 10 DTV allotments for channel 7 and 14 allotments for channel 8. It submits that these allotments could be moved to other channels so that channels 7 and 8 could be left free of DTV operations.

73. Motorola supports our proposals to adopt DTV allotment criteria that promote both the near term and long term recovery of underutilized broadcast television spectrum.¹³⁹ It states that this proceeding presents perhaps the last opportunity to foster major improvements in the efficient use of the spectrum below 1 GHz. Motorola agrees with our initial assessment that recovery of significant portions of the television spectrum can occur without reducing the number of broadcast outlets. It states that given the more robust nature of the DTV technology, as opposed to the existing NTSC service, we will be able to use a higher percentage of the television allocation. It agrees that once the transition is complete, all existing broadcast operations will be able to co-exist within channels 7-51 with capacity remaining for additional allotments.

74. Motorola states that it strongly supports the proposal to provide for early recovery of channels 60-69.¹⁴⁰ To this end, it submitted two DTV Tables or "solutions" that it says

¹³⁸ Ericsson comments, pp. 3-4, 5, 7, and 12-13.

¹³⁹ Motorola comments, pp. 1 and 5.

¹⁴⁰ Motorola comments, p. 9. Motorola indicates that it used our DTV allotment software to analyze whether the number of allotments could be reduced below the number proposed in the draft Table. Motorola indicates that by placing a higher "penalty" on use of channels 60-69 and increasing the priority for maintaining the level of existing protection to land mobile stations operating on channels 14-20, it was able to significantly improve our proposed plan from the perspective of enhancing the opportunity for early recovery of channels 60-69.

would further limit the number of DTV allotments on channels 60-69. Motorola states that by focusing on the allotment of new channels for the DTV allotments proposed for channels 60-69, while attempting to maintain a constant "cost" factor imposed on broadcasters, it was able to reduce the number of DTV allotments on channels 60-69 from 30 to 5. It states that this Table was achieved with only a minor increase in the "cost" of the solution as calculated by the software.¹⁴¹ It submits that this solution would result in no DTV operations on 5 of the 10 channels between 60-69. It also indicates that by "short-spacing" a few DTV allotments it was able to further reduce the number of DTV allotments in channels 60-69 from 5 to 2. In addition, it states that these solutions maintain interference protection for land mobile stations now occupying portions of the 470-512 MHz band (channels 14-20) in certain cities. In its reply comments, Motorola states that the performance of the Joint Broadcaster's Modified Table is insignificantly different (1.5% vs. 1.6% reduction in service area) from the Motorola solution considering that its cost precludes the possibility of early recovery of channels 60-69.¹⁴²

75. Citizens for a Sound Economy Foundation, et al. (CSEF) submits that our proposal to locate DTV channels in the core spectrum area constitutes a more efficient assignment of the spectrum, and that to the extent that it obviates the need for later repacking will permit swifter recovery of spectrum, which could then be used for other purposes.¹⁴³ It states that to the extent that our proposal permits channels 60-69 to be made available for other uses, it would provide some immediate compensation for the broadcasters' use of 12 MHz. It urges that we reallocate these channels as soon as possible in a subsequent proceeding.

76. Decision. We continue to believe that the spectrum principles set forth in the Sixth Further Notice are appropriate. We believe that it is important to provide broadcasters with spectrum that is most appropriate and technically suitable for DTV. In this regard, we have developed a Table of DTV Allotments that attempts to provide all eligible broadcasters with a DTV allotment within channels 2-51 without bias against the use of any channel in this band.¹⁴⁴ Where necessary, however, channels outside this region are also used. We believe that approach will provide for full accommodation of all eligible broadcasters in a manner that minimizes interference to existing NTSC service and provides for a high degree of service

¹⁴¹ Motorola also submits that in subsequent analyses where it allowed "short-spacing" between co-channel DTV allotments it was able to reduce the number of DTV allotments on channels 60-69 to two. Motorola states that in some cases short-spacing allotments at distances less than the 175 km "hard limit" we used may be appropriate solutions where terrain and other considerations minimize its impact.

¹⁴² Motorola reply comments, pp. 8-9.

¹⁴³ CSEF comments, pp. 2-3.

¹⁴⁴ As previously noted, channel 37 is not used in order to protect existing radio astronomy uses.

area replication by new DTV facilities. We also continue to believe that we can accomplish these goals in a manner that ensures that the radio spectrum is used efficiently and effectively. In this regard, we believe that the public interest is best served by developing a Table of DTV Allotments that meets the DTV spectrum needs of broadcasters during the transition; facilitates the early recovery of spectrum from channels 60 to 69; and also facilitates the eventual recovery of 138 MHz of spectrum currently being used for analog broadcasting.

77. In this regard, we do not believe that either the early recovery of channels 60-69 or our core approach will have a significant impact on the flexibility needed for the implementation of DTV. We note that the ATSC digital system has been rigorously tested and studied. We also note that significant industry efforts have gone into developing the technical planning criteria to be used in the implementation of DTV. We believe that the Table we are adopting is fully consistent with these technical decisions. We also note that if DTV implementation problems do arise, they are most likely to do so in the most congested markets where channels within the 60 to 69 range will already be in use by either NTSC or DTV operations and thus will not be available to solve such implementation problems. Accordingly, while we are confident that problems in implementation will not arise, we believe that if they do they will better be addressed through technical solutions other than relying on channels 60-69. For example, some technical solutions to unexpected interference could include using directional antennas or limiting power and/or antenna height during the transition.

78. We find that the impact of our core and spectrum recovery approaches on interference and service replication to be insubstantial.¹⁴⁵ We disagree with those parties that assert that these approaches would impact the implementation of DTV by full service broadcasters. Under the DTV Table we are adopting, almost 99% of all existing NTSC service areas and viewers will be unaffected by the implementation of DTV operations. In addition, 93% of all DTV allotments would provide at least 95% service area replication.¹⁴⁶ Further, the DTV Table accommodates more than 100 additional new NTSC stations and

¹⁴⁵ The cumulative differences in interference and service replication between the draft Table contained in the Sixth Further Notice and the Table submitted by Joint Broadcasters was less than 1%. We believe that such a difference is not scientifically "significant" or is at best *de minimis* when considering the accuracy and probabilistic nature of the propagation and other engineering models used to calculate both interference and service area. We note, for example, that considerable debate took place within our Advisory Committee with regard to the planning factors for DTV. We further note that Industry Canada has suggested that it would use somewhat different engineering planning factors for the development of DTV in its country. Changing certain DTV planning factors would have a significantly greater impact than 1% on the interference and service replication calculations. Furthermore, the actual implementation of DTV will likely vary considerably from that assumed in the calculations. For example, many broadcasters will not be able to use their existing towers or transmitter sites for DTV. These practical implementation considerations will likely result in significantly greater differences than those calculated between the two draft Tables. We believe that all of these factors warrant a conclusion that the very small differences in the two different approaches are insignificant.

¹⁴⁶ This level of replication is calculated based on a 1 MW power limit for DTV operations.

provides DTV allotments for these stations. It also eliminates all but one of the land mobile sharing problems that were present in both the draft and the Joint Broadcasters' Tables. In summary, we find that the DTV Table will fully meet the needs of broadcasters during the DTV transition. We believe that cumulative differences in interference and service replication between the Table we are adopting and approaches suggested by the Joint Broadcasters are *de minimis* and are clearly outweighed by the benefits to be achieved through our core and spectrum recovery plans.

79. We also disagree with those broadcasting parties that assert that we should not recover early channels 60 to 69 because there is no need for additional spectrum by other services. We believe that the record clearly demonstrates that additional spectrum is required to meet the needs of public safety and other land mobile services. As indicated by APCO, LA County, the Governor of New Jersey and the many governmental organizations that filed comments in this proceeding, there is an urgent need for additional spectrum to meet important public safety needs, such as broadband data transmissions of fingerprints, mugshots, criminal histories, building diagrams, hazardous material information, medical images and related emergency response data. The record also strongly supports a conclusion that spectrum in the region of channels 60-69 is appropriate to meet some of these needs. As indicated by several parties, the proximity of existing land mobile communications systems to channels 60-69 would permit equipment economies and could enhance interoperability between future public safety systems and current systems now operating in the 800 MHz land mobile bands. Accordingly, as indicated above, our DTV Table of Allotments minimizes the use of channels 60-69 to facilitate that early recovery of this portion of the spectrum.

80. We will initiate a separate proceeding in the very near future to address how to allocate available spectrum at channels 60-69. In our recent Report and Order in the WCS proceeding, we stated that we would give serious consideration to allocating 24 MHz for public safety use.¹⁴⁷ We will also consider whether some or all of the remaining 36 MHz could be assigned by auction. All existing NTSC and DTV full service broadcast operations on these channels will be fully protected during the transition. We will also address whether to require compensation by new service providers to full service or low power operations for the displacement or relocation of such operations from channels 60-69. With regard to

¹⁴⁷ See Report and Order in GN Docket No. 96-228, adopted February 19, 1997, FCC 97-50. We also observe that legislation recently introduced by Senator McCain would direct the Commission to allocate 24 MHz of the channel 60-69 spectrum to public safety use within 30 days of enactment of the legislation, and that the Administration has stated its support for such a reallocation. Senator McCain's proposed legislation would also require assignment by auction for commercial use of the remaining 36 MHz of recovered spectrum at channels 60-69. See S.255, The Law Enforcement and Public Safety Telecommunications Empowerment Act, as introduced in the United States Senate on February 4, 1997, Section 4(a); see also Testimony of Larry Irving, Assistant Secretary for Communications and Information, U.S. Department of Commerce, before the Subcommittee on Telecommunications, Trade and Consumer Protection of the U.S. House of Representatives Committee on Commerce, February 12, 1997, at 24; see also Statement by Attorney General Janet Reno on Proposal to Set Aside communications frequencies for Public Safety Use, released February 6, 1997.

eventual recovery of spectrum beyond channels 60-69, our planning for the future recovery of such additional spectrum does not in any way prejudice the potential uses of that additional spectrum or the services that might operate thereon.

81. With regard to LPTV and TV translator stations, we continue to believe that the principal impact on low power operations will be from the accommodation of all full service broadcasters with a second channel for DTV. Further, we find that the potential benefits of recovering channels 60-69, as discussed above, outweigh any additional impact this plan may have on low power operations. Nevertheless, as we discuss below at paragraphs 141 to 146, we are taking a number of significant steps to mitigate this impact. We therefore continue to conclude that LPTV and TV translator stations should retain their secondary allocation status.¹⁴⁸

82. *DTV Core Spectrum.* One of our principal concerns is to provide broadcasters with the best possible spectrum for DTV operation. In the Sixth Further Notice, we stated our belief that channels 7-51 are the most suitable frequencies for DTV service. We noted that TV operations on the lower VHF channels 2-6 are subject to a number of technical penalties, including higher ambient noise levels due to leaky power lines, vehicle ignition systems, and other impulse noise sources and interference to and from FM radio service. At the same time, we recognized that the lower VHF channels 2-6 offer unique technical characteristics for broadcasting, particularly with regard to propagation. Finally, we observed there are propagation limitations for TV service on higher UHF channels.

83. Our core concept was designed to facilitate and minimize the cost to broadcasters of spectrum recovery. A number of commenting parties, however, strongly urge that the core spectrum be modified to include channels 2-6. Other parties agree with our initial assessment that these channels may not be appropriate for DTV. We, therefore, believe that best approach at this time is to develop the DTV Table of Allotments based on use of channels 2-51. Accordingly, we have modified our allotment software to attempt to locate all DTV channels within this portion of the spectrum. If the lower VHF channels 2-6 prove acceptable for DTV use, we will consider retaining these channels for DTV and adjusting the core spectrum to encompass channels 2-46 rather than channels 7-51. We do not believe that expansion of the core, or elimination of our computer allotment penalties, to include channels above channel 51 is warranted or would significantly reduce interference. Further, such an approach would lead to additional assignments outside the DTV spectrum core area, thereby increasing the number of second channel moves, with concomitant costs, for broadcasters. Accordingly, the DTV Table of Allotments, adopted herein, is based on use of channels 2-51. This approach will allow us to monitor closely the experiments and early implementation of DTV operations before determining the core spectrum for DTV.

¹⁴⁸ As noted above, our decisions with regard to this issue have been upheld on judicial review in Polar Broadcasting v. F.C.C., 22 F.3d 1184 (D.C. Cir. 1994) (table).

84. We also will allow broadcasters, wherever feasible, to switch their DTV service to their existing NTSC channels at the end of the transition if they so desire. Such channel switches would be permitted provided that the station's existing channel is within the final DTV core spectrum. Stations, with both NTSC and DTV channels outside the core spectrum, will be assigned new channels within the core from recovered spectrum. We note that the new Table contains 68 instances where both channels are outside of channels 7-51 and 89 instances where both channels are outside of channels 2-46.

D. Allotment Preference

85. In most instances, the choice of channels for a DTV allotment will involve consideration of other nearby DTV allotments and existing NTSC stations. We noted that any plan that provides all eligible broadcasters with a new DTV allotment will unavoidably result in some degree of interference to both NTSC and DTV stations. This is true whether the digital frequencies are distributed throughout the existing broadcast spectrum or whether the digital frequencies are generally placed in the spectrum at channels 7-51.¹⁴⁹ In the Sixth Further Notice, we proposed to allot DTV channels using an approach that is neutral in protecting both existing NTSC stations and new DTV allotments. The draft Table therefore attempted to minimize interference to all stations and to balance unavoidable interference among NTSC and DTV stations equally. We also asked questions about how to mitigate interference to NTSC service.

86. Comments. APTS supports our proposal to employ a neutral approach in protecting NTSC and DTV stations from interference.¹⁵⁰ It also states that we should take the additional step of requiring DTV stations to operate at reduced power where necessary to protect NTSC stations from interference during the transition. APTS argues that broadcast stations, which must compete with many other video distributors, cannot afford to alienate a substantial portion of their viewers by suddenly delivering a deteriorated level of NTSC service. Joint Broadcasters maintain their longstanding position that the DTV allotment process should attempt to reduce interference to NTSC service to the maximum degree possible, in order to avoid disenfranchising viewers.¹⁵¹ On the other hand, BET supports our earlier proposal to provide a relative preference to new DTV operations when a choice must be made between providing greater service area for a new DTV allotment or minimizing interference to an existing NTSC station. It states that maximizing a DTV station's service

¹⁴⁹ The total amount of interference to NTSC service is primarily a function of full accommodation, *i.e.*, our goal of providing all existing stations with a companion DTV operation. Because all TV channels are used when necessary to avoid interference, there is, in general, very little impact on total NTSC interference from our spectrum recovery proposals. That is, a full accommodation approach that used all channels and did not attempt any spectrum recovery would still result in about the same level of additional interference to NTSC service areas.

¹⁵⁰ APTS comments, pp. 27-28.

¹⁵¹ Joint Broadcasters comments, p. 5.

area will result in rapid, comprehensive DTV overage, thereby encouraging the transition to DTV.¹⁵² Other commenting parties did not address this issue.

87. Decision. We believe it is important that our approach for development of DTV allotments minimize the amount of interference that would be caused to both existing TV service as well as the new DTV service. It is important to protect the existing NTSC service in designing the DTV Table so that the public does not lose television service during the transition. At the same time, we believe it is equally important to avoid interference to new DTV stations wherever possible in order to provide for the best possible DTV service in the future. We therefore have attempted to minimize interference to all stations and to balance unavoidable interference between both NTSC and DTV stations equally in developing the DTV Table of Allotments. The DTV Table we are adopting today will fully protect 98.8 percent of existing geographic service area and 98.6 percent of the population now served within the Grade B contours of existing stations. At the same time, the service replication allotment approach we are using and the superior performance characteristics of the ATSC DTV system have allowed us to provide for DTV coverage that is equal or superior in coverage to today's NTSC service. We also find that the DTV Table sufficiently minimizes interference among stations such that it is not necessary to adopt special provisions to mitigate interference during the transition.

E. Assignment Methodology

88. In the Sixth Further Notice, we proposed to assign DTV channels to eligible broadcasters in a manner consistent with our plan to employ service replication in developing the DTV Table of Allotments. We therefore proposed to designate DTV channels for existing stations based on the results of the matching process that is an intrinsic feature of the service replication approach used in developing the Table. We also requested comment on whether a first-come/first-served or some other approach for assigning channels would better meet our goal of implementing digital television in an efficient, effective manner.

89. Comments. The commenting parties addressing this issue support our proposal to assign channels to existing broadcasters based on the matching process involved in replicating the service areas of those stations. For example, the Joint Broadcasters submit that an assignment method based on replication of service areas provides the greatest opportunity for an orderly and successful transition to the digital environment.¹⁵³ They state that replication of a station's service area will maintain viewer continuity. APTS also specifically endorses the paired channel approach. It states that the pairing of channels will avoid the "first-come/first serve" spectrum free-for-all that would place noncommercial stations at a severe

¹⁵² BET comments, p. 8.

¹⁵³ Joint Broadcasters comments, p. 12.

disadvantage to their counterparts.¹⁵⁴

90. Decision. We continue to believe that the most advantageous approach for assignment of DTV channels is to match stations with the channel that best replicates their existing service areas. We agree with the commenting parties that this approach will preserve both viewers' access to the existing stations in their market and stations' access to their existing populations of viewers, and thereby ensure an orderly transition to DTV service for both commercial and noncommercial stations. Accordingly, we are offering eligible broadcasters DTV assignments in accordance with the matched plan of DTV allotments specified on the DTV Table set forth in Appendix B. These assignments will be offered to eligible broadcasters pursuant to the schedules and conditions established in our Fifth Report and Order in this proceeding.

F. Additional Considerations

91. In the Sixth Further Notice, we observed that during the transition, in most communities, digital allotments will use up all of the available spectrum for full service broadcasting. But in some communities -- mainly rural areas -- unused channels may remain even after all existing broadcasters receive allotments.¹⁵⁵ Assuming that some channels will be vacant in certain geographic areas during the transition, and more after the transition, we requested comment on whether and how we should make those channels available. We asked, for example, if once we have identified any remaining channels, we should accept applications for new primary stations? Or should we consider other possibilities, such as permitting existing broadcasters, either individually or jointly, to use the available channel or channels for additional broadcast or subscription programming? We also asked whether we should permit broadcasters in a community to propose, as an alternative to the allotment plan in the attached Table, an allotment plan that would allow them to use, jointly or individually, more than one vacant channel apiece? We asked whether we would be required in this situation to consider other mutually exclusive applications?¹⁵⁶ We further requested comment on

¹⁵⁴ APTS comments, p. 3.

¹⁵⁵ For example, in Bangor/Orono, Maine, currently there are four NTSC stations. The attached DTV Table of Allotments provides DTV allotments for these four stations. However, even considering LPTV and TV translator operations, there appears to be sufficient spectrum in this area to operate a number of additional channels, either NTSC or DTV. In addition, after the transition, additional spectrum will be available when NTSC stations cease operating.

¹⁵⁶ See Ashbacker Radio Corp. v. FCC, 326 U.S. 327 (1945). In Ashbacker, the Supreme Court held that the Commission is required under Section 309 of the Communications Act, 47 U.S.C. to give consideration to all bona fide mutually exclusive applications. In so holding, the Court did not, however, preclude the Commission from establishing threshold qualification standards that must be met before applicants are entitled to comparative consideration. Indeed, in United States v. Storer Broadcasting Co., 351 U.S. 192 (1956), the Court held that, in the context of a rule making proceeding, the Commission may establish eligibility standards that applicants must meet in order to receive comparative consideration. See also Fourth Further Notice, at para. 29.

whether, if we permit such proposals, should the channels be used on a primary or secondary basis? Finally, we asked that if we adopt the core spectrum approach, should our policies depend on whether the spectrum at issue is inside or outside the core? We also asked that in evaluating allotment plans for DTV, commenting parties consider the costs and benefits under alternative approaches to spectrum recovery. We requested comment on the affect such approaches would have on new entry to broadcasting.

92. Comments. Several parties responded to our inquiries with regard to these issues. WB, for example, submits that we should assign DTV channels to NTSC broadcasters currently not eligible for a DTV channel (non-eligible broadcasters) on a priority basis if spectrum is or becomes available.¹⁵⁷ It urges that we make vacant channels available to non-eligible NTSC licensees and permittees both during and after the transition. WB also states that to the extent that an additional channel does not become available or if a non-eligible broadcaster wishes to keep its existing channel, we should allow that broadcaster to convert its existing channel to DTV operation. It further submits that wherever feasible we should make new DTV allotments available to non-eligible broadcasters at the same time channels are made available to eligible broadcasters. It states that this would facilitate a smooth transition of all broadcasters from NTSC to DTV service and thereby foster diversity.

93. CSEF argues that we should not permit existing broadcasters to have the exclusive right to use any vacant channels that might be available after the DTV assignments have been made. It states that to do so would be contrary to our goals of competition and diversity, and would run afoul of the Supreme Court's holding in Ashbacker.¹⁵⁸ CSEF submits that broadcasters should not be given more free spectrum than they will already receive through the proposed assignment of a second DTV channel. It states that it would be more appropriate to make this spectrum available to displaced low power TV stations, to mutually exclusive applicants, or, if Congress permits, to competitive bidders and/or for flexible use.

94. BET urges that we provide measures to compensate for the effects of the freeze on new broadcast applications, mega-mergers, and the loss of LPTV stations to promote diversity in media ownership.¹⁵⁹ It argues that although the Telecommunications Act of 1996 requires that we provide the initial allotment of DTV channels to incumbent full service broadcast licensees, we must also take steps promote distribution of DTV broadcast licenses to new entrants under Section 307 of the Communications Act.¹⁶⁰ In this regard, BET submits that we should make all vacant DTV allotments available to new entrants via auction

¹⁵⁷ WB comments, p. 13-14.

¹⁵⁸ CSEF comments, pp. 2 and 5.

¹⁵⁹ BET comments, pp. 5-7 and 10.

¹⁶⁰ See § 336(a)(1) of the Communications Act, 47 U.S.C. 336(a)(1), enacted in the Telecommunications Act of 1996; and 47 U.S.C. § 307(b).

following adoption of the DTV Table of Allotments for all full service broadcasters. It further recommends that we: 1) adopt rules that promote partnerships, joint ventures, and local marketing arrangements between TV broadcasters and minority- and women-owned businesses, 2) allow geographic partitioning and spectrum disaggregation for ancillary and supplementary services, and 3) provide for early recovery and auction of spectrum for new entrants. BET suggests that we adopt rules that encourage LPTV, TV translator and noncommercial operators to form partnerships with new entrants. BET also states that the revenues from supplementary/ancillary DTV services could provide incentives for noncommercial/new entrant partnerships and additional funding for noncommercial broadcast DTV operations. It urges that we encourage partnerships between incumbent television broadcasters and new entrants, particularly minority- and women-owned entities, by requiring incumbent broadcasters who are assigned DTV licenses to form partnerships with minority and women-owned entrants as a condition for the flexibility to provide supplementary services.

95. Decision. We concur with the commenting parties that it is important to continue to foster our longstanding broadcast policy goals of diversity and encouraging new entry, particularly by minorities and women. We also believe that fostering these goals is consistent with our spectrum management responsibilities to ensure that the DTV spectrum is used efficiently. Accordingly, we will permit unused DTV spectrum to be used by both new and displaced LPTV and TV translator stations. We will also allow new entrants and non-eligible broadcasters to seek and apply for new DTV allotments.¹⁶¹ In addition, as suggested by WB, we will allow non-eligible broadcasters to convert their existing NTSC operations to DTV service at any time during the transition, provided those operations are within the core spectrum area. We believe that this action will further our diversity goals and promote the development and expansion of new networks. We further encourage incumbent broadcasters to seek partnerships with new entrants in developing new stations in areas where additional unused spectrum may be available.¹⁶²

IV. OTHER ISSUES

96. In addition to the principles and objectives discussed above, there are several other matters that need to be resolved in developing the DTV Table of Allotments. These matters include use of existing transmitter sites for DTV service, treatment of vacant NTSC allotments, displacement of low power TV stations and TV translators, use of TV channels 3, 4 and 6, and protection of land mobile services. These matters are addressed below.

¹⁶¹ We intend to give particular consideration to those parties who had applications for a construction permit on file as of October 24, 1991, who are ultimately awarded a full-service broadcast station license, given the reliance that these parties may have placed on the scheme we established before passage of the Telecomm Act. See Fourth Further Notice, at 10544-45.

¹⁶² For example, in markets such as Bangor/Orono, ME, as discussed above.

A. Use of Existing Transmitter Sites

97. In the Sixth Further Notice, we proposed to allot DTV channels on the basis of current transmitter sites, rather than community reference points. Under this proposal, the current NTSC transmitter sites would be used to develop the DTV Table and to determine whether DTV allotments met the proposed minimum allotment requirements. In recognition of the fact that many broadcasters will not be able to locate their DTV operations at the same exact site as their NTSC station, we proposed to permit a broadcaster to locate its DTV facility at any site within a three-mile radius of the actual transmitter location, so long as the station would continue to serve its community of license.¹⁶³ We also proposed to permit a licensee to operate its DTV station at a site different from that of its NTSC operation where the alternate site would meet the proposed DTV minimum spacing requirements and the station would continue to serve its community of license. We noted that such site relocations could include movement to a common local TV transmission site. We also requested comment regarding any circumstances where it might be desirable to evaluate DTV allotments on the basis of sites other than those occupied by existing TV stations.

98. Comments. Most of the commenting parties who address this issue support our proposal to allot DTV channels on the basis of stations' current transmitter sites.¹⁶⁴ For example, the Joint Broadcasters and APTS note that this strategy will facilitate replication of NTSC service areas, thereby assuring continued service to viewers and minimizing disruption during the transition, and encourage co-location of NTSC and DTV operations.¹⁶⁵ APTS also states that co-location of NTSC and DTV facilities will permit stations to realize cost savings both in converting to DTV service and in operating dual facilities during the transition.

99. Freedom Communications, Inc. (Freedom), however, opposes allotment of DTV channels based on stations' existing transmitter sites. It contends that using existing transmitter sites will perpetuate current inequities of the current NTSC Table in cases where there is short-spacing to other stations and/or where transmitter sites are located away from a main local antenna farm, so that most viewers' antennas tend to be oriented away from the station's transmitter.¹⁶⁶ KSCI-TV and the LABCTS support co-location of all DTV

¹⁶³ Such site relocations could include movement to a common local TV transmitter site, provided the new common site is within three miles of the station's existing site and would allow the station to serve its community of license.

¹⁶⁴ Parties supporting this proposal include APTS, Aries, the Joint Broadcasters, KSCI-TV, Pappas, Sunbelt, TV-52, and Mr. Smith.

¹⁶⁵ Joint Broadcasters comments, p. 13; APTS comments, pp. 4-5.

¹⁶⁶ Freedom comments, pp. 2-4.

transmitters within a market to a common site.¹⁶⁷ They state that a common transmitter site would help reduce interference, provide more available channels and eliminate receiving antenna orientation problems. KSCI-TV also submits that if a station moves its transmitter to a different site which is co-located with the other stations in the market, the station should be allowed to use repeaters to provide service to areas currently served that would not be served from the new site.

100. The Joint Broadcasters oppose our proposal to allow a station to locate its DTV facility at any site within a three-mile radius of its NTSC transmitter. While they support our recognition of the need to provide broadcasters flexibility in locating their DTV operations, they are concerned that any decision to choose a different transmitter site, even one as close as one mile away, may significantly affect other stations. Broadcasters therefore believe that relocations should be considered on a case-by-case basis and recommend that this task be assigned to the proposed industry coordinating committees. They further state that requests for DTV transmitter relocation should be granted freely.¹⁶⁸

101. Aries, Sarkes Tarzian, Inc., Sunbelt, and TV-52 submit that stations need greater flexibility to locate their DTV transmitters than the three-mile radius proposed in the Sixth Further Notice. For example, Sarkes Tarzian supports allowing licensees the flexibility to operate their DTV service from locations at other than their NTSC transmitter site where such operation would not create unacceptable new interference to either the DTV or NTSC service of other stations. It submits that this approach would result in significant maximization of DTV service and better NTSC/DTV matching.¹⁶⁹ TV-52 submits that greater flexibility in locating DTV transmitter sites may be needed given the difficulty inherent in locating existing tower space or in constructing new towers.¹⁷⁰ It further states that if we grant authority to a licensee to relocate its authorized NTSC site, its DTV site should be relocated as well, even if the move would require a change of the DTV allotment. Sunbelt asks that we be flexible in permitting waivers or variations where the circumstances warrant choice of a different location.¹⁷¹

102. Decision. Given our decision on service replication, we continue to believe that DTV allotments should be based on current transmitter sites, rather than community references. We also find that allowing broadcasters the flexibility to locate their transmitting facilities at any site within a three mile radius of their existing antenna site coordinates is

¹⁶⁷ KSCI-TV comments, pp. 2-3; LABCTS comments, pp. 2-3.

¹⁶⁸ Joint Broadcasters comments, p. 14.

¹⁶⁹ Sarkes Tarzian comments, p. 2.

¹⁷⁰ TV-52 comments, p. 2.

¹⁷¹ Sunbelt comments, pp. 5-6.

appropriate. Accordingly, we adopt these proposals. While we understand the concern of those commenting parties who suggest that permitting such location flexibility may impact the operations of other stations, we also recognize that existing transmitter sites may not always be available and that use of alternative sites must be accommodated to permit DTV operations. We further believe that the impact of allowing stations to move their transmitter sites within a three mile area should be minimal, providing existing antenna patterns are maintained, and can be taken into account through minor adjustments in power and antenna height if problems arise. We also agree with those parties who suggest that we should provide as much flexibility as possible with regard to changes in transmitter locations. To provide broadcasters' flexibility, we will allow stations to relocate to other locations or co-locate their facilities with other broadcasters where such relocations and co-locations would not increase interference.¹⁷²

B. Existing Vacant Allotments, New NTSC Applications and Station Modifications

103. In the Sixth Further Notice, we proposed to eliminate all vacant NTSC allotments to facilitate development of the DTV Table. We also requested comment on whether allotments for noncommercial service deserve special consideration.

104. Consistent with our proposal to eliminate all existing vacant NTSC allotments, we stated that we would not accept additional applications for new NTSC stations that are filed after 30 days from the publication of the Sixth Further Notice in the Federal Register.¹⁷³ We stated that as we process the applications on file now and those that are filed before the end of this filing opportunity, we would continue our current policy of considering requests for waiver of our 1987 freeze Order on a case-by-case basis.¹⁷⁴ We also stated that when applications for new stations are accepted for filing, we would continue our process of issuing Public Notices that "cut-off" the opportunity for filing competing, mutually-exclusive applications. In connection with these cut-off notices, we stated that we would allow additional competing applications to be filed after the end of this filing opportunity. We anticipated that these applications for new NTSC TV stations on existing allotments will not have a significant negative impact on the development of the DTV Table of Allotments, but reserved the right, in specific cases, to determine that the public interest is better served if they are not granted, granted only if amended to specify reduced facilities, or granted only with a condition that limits the interference that the station would be allowed to cause.

105. We also stated that, effective as of the close of business on the date of adoption

¹⁷² See for example, paragraph 32, above.

¹⁷³ See Sixth Further Notice, at para. 60. Under this decision, the last day for filing of applications for new NTSC stations that would use an existing vacant allotment was September 20, 1996.

¹⁷⁴ Since July 1987, it has been the Commission's policy not to accept applications for any new stations in 30 major markets. See Order, RM-5811 (Mimeo No. 4074, released July 17, 1987).

of the Sixth Further Notice, i.e., July 25, 1996, we would no longer accept petitions for rule making proposing to amend the existing TV Table of Allotments in Section 73.606(b) of our rules to add an allotment for a new NTSC station.¹⁷⁵ We indicated that other petitions to amend the TV Table of Allotments (for example, proposing to change a station's community of license or altering the channel on which it operates, including changes in which channel allotment in a community is reserved for noncommercial educational use) could continue to be filed, but any such changes to the TV Table that include a modification of a station's authorization would be conditioned on the outcome of this DTV rule making proceeding. We stated that any petitions that were on file and any rule making proceedings that were open would be addressed on a case-by-case basis, taking into account their impact on the draft DTV Table. For those pending cases in which a new NTSC channel is allotted, we indicated that we would make an exception to our decision to cease accepting applications for new NTSC stations, and that the accompanying allotment Report and Order would specify the period of time for filing applications.

106. We stated that we would continue to permit the filing of applications by existing or authorized NTSC TV stations to modify their technical facilities, i.e., maximum effective radiated power (ERP), antenna height above average terrain (HAAT), and transmitter locations. However, in order to preserve our ability to develop the DTV Table, we stated that we would henceforth condition the grant of applications for modifications of technical facilities, including those for applications on file before the date of the adoption of the Sixth Further Notice, but granted after that date, on the outcome of our final decision on the DTV Table of Allotments. We indicated that to the extent that an existing station's service or potential for causing interference are extended into new areas by grant of an application, the condition may require the station's authorized facilities to be reduced or modified. We sought comment on whether this condition should involve different consequences for applications for modifications on file as of the date of adoption of the Sixth Further Notice, as opposed to such applications filed after that date.

107. Comments. The commenting parties support our proposal to eliminate vacant NTSC allotments. These parties agree that recovery of the vacant commercial NTSC allotments is necessary to facilitate the creation of new DTV allotments.¹⁷⁶ For example, the Joint Broadcasters state that we should use unassigned/unallotted NTSC channels to increase new service while protecting NTSC and predicted DTV service.¹⁷⁷ BET submits that provision of a DTV channel for a vacant NTSC commercial or noncommercial allotment is not the most efficient use of the spectrum and suggests that such vacant allotments be recovered and made part of an auction to new entrants for DTV and other supplementary and

¹⁷⁵ See Sixth Further Notice, at para. 61, and 47 CFR §73.606(b).

¹⁷⁶ The parties that specifically support the elimination of vacant NTSC allotments include the Joint Broadcasters, Meredith, SHBC, LA County and BET.

¹⁷⁷ Joint Broadcasters comments, p. 48.

other services.¹⁷⁸ LA County and LeSEA state that elimination of the existing vacant commercial and noncommercial NTSC allotments would allow us to maximize the number of DTV allotments for existing stations in both the commercial and noncommercial services and more effectively free-up spectrum for new uses.¹⁷⁹ SHBC submits that vacant channels should be deleted if they prevent a DTV channels from being assigned elsewhere in a market.¹⁸⁰

108. APTS, the Joint Broadcasters, and Rural ask that we take steps to protect vacant noncommercial allotments. APTS and Rural argue that maintaining public broadcasting capacity is a bedrock Congressional and Commission policy that should not lightly be cast aside. The Joint Broadcasters state that they have long recognized the importance of preserving noncommercial vacant allotments in the DTV world.¹⁸¹ APTS states that we should not delete vacant noncommercial channels unless we find on the basis of an engineering analysis that there is no other way to accommodate existing broadcasters with DTV channels.¹⁸² APTS states that it often takes years to lay the ground work for a noncommercial application, and that it would be unjust if we were to reallocate a vacant reserved NTSC channel for DTV service at the eleventh hour and deny an application to use that channel for noncommercial service. It states that we should be particularly careful to protect vacant reserved noncommercial NTSC channels in cases where a party has already applied for the channel during the filing period that closed on September 20, 1996. APTS and the Joint Broadcasters also submit that we should replace any deleted noncommercial NTSC channels with noncommercial DTV channels, where possible, and that we should pair DTV channels with vacant NTSC channels. It further submits that we should replace the rest of the vacant channels that we delete with digital channels reserved for noncommercial use when analog channels are returned at the end of the transition.

109. Many of the commenting parties address our decision to place a condition on modifications of facilities granted after the adoption of the Sixth Further Notice.¹⁸³ APTS and the Joint Broadcasters support this decision. They submit that in processing such applications, we should determine whether the proposed change would cause new interference

¹⁷⁸ BET comments, p. 10.

¹⁷⁹ LA County comments, p. 8; LeSEA comments, p. 5.

¹⁸⁰ SHBC comments, p. 4.

¹⁸¹ Joint Broadcasters comments, p. 53. They also submit that their Modified Table would replace some of the noncommercial vacant NTSC allotments with DTV equivalents.

¹⁸² APTS comments, pp. 19-24; Rural comments, pp. 2-3.

¹⁸³ Parties addressing our decision to apply a condition to facility modifications include APTS, the Joint Broadcasters, Costa, Crossville, Maranatha, the Modifiers, Media Properties, Inc. (Media), MVM, Meredith Corporation (Meredith), Pulitzer Broadcasting Company (Pulitzer), Ramar, Red River, Second Generation, Sonshine, and Valley.